Inkyu Shin | Curriculum Vitae

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I am a second-year Ph.D. student at Korea Advanced Institute of Science and Technology (KAIST) under the co-supervision of Prof. Kuk-Jin Yoon and Prof. In So Kweon. I earned my B.S and M.S degrees in automotive engineering from Hanyang University(HYU) and KAIST in 2019 and 2021. I interned at NEC Laboratories America, Inc, San Jose, CA (with Dr. Yi-Hsuan Tsai), and Google Research (with Dr. Liang-Chieh Chen, and Dr. Jun Xie; expected 2022)

Research Interests

My research interests currently lie in computer vision. Specifically, I pursue the goal of effectively processing data and building strong recognition model in computer vision. Followings are my main research topics.

- Semantic Segmentation
- Domain Adaptation and Generalization
- Simulated Learning
- Self-supervised Learning

Ultimately, the purpose of these researches is to apply to a variety of applications (e.g., Autonomous driving, Robot Navigation, AR/VR).

Research Experience

- **Google Research** — **LA, CA (virtual)**
  Student Researcher, Mentors: Liang-Chieh Chen and Jun Xie — *May 2022 - April 2023*
- **NEC Laboratories America, Inc** — **San Jose, CA (virtual)**
  Research Intern, Mentors: Yi-Hsuan Tsai — *May 2021 - Aug 2021*
- **Korea University** — **Seoul, Korea**
  Research Intern, Supervisor: Jaegul Choo — *Sep 2018 - Dec 2018*
- **Hanyang University** — **Seoul, Korea**
  Research Assistant, Supervisor: Myuong-Ho Sunwoo — *Jul 2018 - Aug 2018*
- **Samsung Electronics** — **Hwasung, Korea**
  Intern, Semi-conductor Test Group. — *Jan 2018 - Mar 2018*

Education

- **Korea Advanced Institute of Science and Technology (KAIST)** — **Daejeon, Korea**
  Future Vehicle Ph.D. degree, Co-Advisors: Kuk-Jin Yoon and In So Kweon — *2021–*
- **Korea Advanced Institute of Science and Technology (KAIST)** — **Daejeon, Korea**
  Future Vehicle M.S degree, Advisor: In So Kweon — *2019–2021*
  Master's Thesis: Learning to Scale the Labels for Self-training based Domain Adaptation
- **Hanyang University (HYU)** — **Seoul, Korea**
  AUTOMOTIVE ENGINEERING B.S degree — *2013–2019*

Publications

(C: conference / J: journal / P: preprint / * :equal contributions)

International Conference

- **[C7] MM-TTA: Multi-Modal Test-Time Adaptation for 3D Semantic Segmentation**
  Inkyu Shin, Yi-Hsuan Tsai, Bingbing Zhuang, Samuel Schulter, Buyu Liu, Sparsh Garg, In So Kweon, Kuk-Jin Yoon
  Computer Vision and Pattern Recognition (**CVPR**), 2022

- **[C6] UDA-COPE: Unsupervised Domain Adaptation for Category-level Object Pose Estimation**
  Taeyeop Lee, Byeong-Uk Lee, **Inkyu Shin**, Jaesung Choe, Ukcheol Shin, In So Kweon, Kuk-Jin Yoon
  Computer Vision and Pattern Recognition (**CVPR**), 2022

- **[P2] Unsupervised Domain Adaptation for Video Semantic Segmentation**
  Kwanyong Park*, **Inkyu Shin***, Sanghyun Woo, In So Kweon
  arXiv, 2021

- **[C5] LabOR: Labeling Only if Required for Domain Adaptive Semantic Segmentation**
  Inkyu Shin, Dong-Jin Kim, Jae Won Cho, Sanghyun Woo, Kwanyong Park, In So Kweon
  International Conference on Computer Vision (**ICCV**), 2021 (**Oral**)
  - *Received Qualcomm Innovation Award 2021.*

- **[P1] Learning Representations by Contrasting Clusters While Bootstrapping Instances**
  Junsoo Lee, Hojoon Lee, **Inkyu Shin**, Jaekyoung Bae, In So Kweon, Jaegul Choo
  arXiv, 2020

- **[C4] Discover, Hallucinate, and Adapt:**
  Open Compound Domain Adaptation for Semantic Segmentation
  Kwanyong Park, Sanghyun Woo, **Inkyu Shin**, In So Kweon
  Conference on Neural Information Processing Systems (**NeurIPS**), 2020
  - *Received Qualcomm Innovation Award 2021.*

- **[C3] Two-phase Pseudo Label Densification for Self-training based Domain Adaptation**
  Inkyu Shin, Sanghyun Woo, Fei pan, In So Kweon
  European Conference on Computer Vision (**ECCV**), 2020
  - Also presented at "Visual Learning with Limited Labels" Workshops in conjunction with (**CVPR**), 2020

- **[C2] Unsupervised Intra-domain Adaptation for Semantic Segmentation through Self-Supervision**
  Fei pan, **Inkyu Shin**, Francois Rameau, Seokju Lee, In So Kweon
  Computer Vision and Pattern Recognition (**CVPR**), 2020 (**Oral**)
  - *Received Qualcomm Innovation Award 2020.*

- **[C1] Image-to-Image Translation via Group-wise Deep Whitening-and-Coloring Transformation**
  Wonwoong Cho, Sungha Choi, David Keetae Park, **Inkyu Shin**, Jaegul Choo
  Computer Vision and Pattern Recognition (**CVPR**), 2019 (**Oral**)

Awards

- 2021: Qualcomm Inovation Award.
- 2020: Qualcomm Inovation Award.

IT skills

- Languages: Python, MATLAB, C, LATEX
- Libraries: PyTorch, TensorFlow

References

- **In So Kweon**, Professor, KAIST
  iskweon@kaist.ac.kr

- **Kuk-Jin Yoon**, Professor, KAIST
  kjyoon@kaist.ac.kr

Service

- Military Service: Graduated from US Army Sergeant school(WLC) as KATUSA.